

REMARKS

This paper is responsive to the Office Action dated August 3, 2009. Claims 23 and 26-46 are currently pending, of which Claims 32-46 were previously withdrawn in response to the restriction requirement. Claim 23 has been amended to include an element recited in Claim 25. Claim 25 has been canceled. Claim 26, which was previously dependant from Claim 25, has been amended to recite correct dependency. No new matter has been added by these amendments. Entry of the amendments to Claims 23 and 26 after final rejection is proper in this case. The claim amendments do not substantially change the scope of the pending claims such that undue searching or consideration is necessary.

Rejections under 35 U.S.C. § 103

Claims 23 and 25-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable by U.S. Patent No. 5,865,795 to Schiff et al. (hereinafter, "Schiff") in view of U.S. Patent No. 6,752,781 to Landau et al. (hereinafter, "Landau"). Applicant respectfully disagrees. As noted above, Claim 23 is amended to include an element recited in Claim 25. Claim 25 has been canceled.

Independent Claim 23

As amended, Claim 23 recites,

A needleless injection device, comprising:

a cylinder for medicament having an injection nozzle at a forward end thereof and an opening at its rearward end;

a piston sliding in the cylinder through said open end, in use, to drive the medicament through the nozzle;

a ram to drive the piston into the cylinder and having a longitudinal axis; and

an energy accumulator to drive the ram when discharged and disposed between the ram and a discharge assembly, a rear end of the ram extending into said discharge assembly;

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wherein the discharge assembly comprises a retention member fixed in the assembly, said retention member having a plurality of retention elements spaced around and adapted to locate on the ram when in a charged position of the ram, and a release ring surrounding said retention elements to prevent radial outward displacement thereof and discharge of the ram;

wherein axial displacement of said release ring releases said retention elements and causes discharge of the ram by said accumulator;

wherein said retention elements are integral with said retention member and each has an enlarged head which can move into and out of engagement with a groove or recess on the ram by deformation of the material of said retention member; and

wherein said retention member comprises a collet having radially spreadable fingers that are biased radially-inwardly, and wherein said collet in use moves between said first position in which said fingers engage with said ram and said second position in which said fingers spread radially out of engagement with said ram.

These elements and features are not taught, suggested, or disclosed by the cited references, alone or in combination.

As conceded by the Office Action, Schiff fails to teach or suggest "wherein said retention member comprises a collet having radially spreadable fingers that are biased radially-inwardly, and wherein said collet in use moves between said first position in which said fingers engage with said ram and said second position in which said fingers spread radially out of engagement with said ram," as recited in amended Claim 23. (Office Action, page 6.)

Another reference, Landau, does not remedy this deficiency of Schiff as Landau does not teach, suggest or disclose anything relating to the retention member as claimed. However, the Office Action relies on Landau for teaching such elements. In that regard, the Office Action states that Landau teaches a needleless injection device with a collet 96 (Figure 9) with radially spreadable fingers 98 ("jaw face," Col. 10, line 64; Figure 9) that are biased radially inward (Col. 10, line 64) and that drivingly engages a ram 226 (Figure 10). (Office Action, p. 6.) Applicant respectfully disagrees.

Applicant respectfully submits that a collet having a jaw face as disclosed in Landau cannot be considered to be equivalent to a collet having radially spreadable fingers that are biased radially-inwardly as claimed.

In particular, Landau fails to teach or suggest a collet having *fingers that are biased radially-inwardly*. The Office Action cites Col 10, line 64 of Landau as disclosing such element. (Office Action, p. 6.) The relied-upon portion of Landau, however, simply discloses that the collet has a *single* radially inwardly *extending* jaw surface.

Indeed, as shown in Figure 9 of Landau, the jaw face of the collet 96 is not biased radially-inwardly. Further, Landau does not provide any suggestion, teaching, or benefit of having jaw faces being biased radially-inwardly. Instead, Landau simply teaches that moving a gas piston 268 leftwardly independently of a collet and a ram will bring a surface 100 defined on the collet and a surface 102 formed on the gas *piston into engagement with one another*, which results in contracting the collet member so that the collet member is moved to the gripping position from the free position. According to Landau, in the gripping position, the jaw surface 98 of the collet 96 engages into one of the grooves 94 of the ram member 226 and drives the ram forwardly in unison with the gas piston 268.

For example, the text of Col. 11, lines 7-25, of Landau reads:

In order to move the collet from the first free position seen in FIG. 9 to a second, or gripping position, seen in FIG. 10, the collet member 96 defines a male conical tapered surface 100 disposed rightwardly (i.e., toward the aft end of the device 210). This male conical surface 100 confronts and is engageable with a female conical tapered surface 102 which is formed on a first sub-part 268 *a* of the piston member 268. Thus, in response to leftward (i.e., forward) movement of the gas piston member 268 at the beginning of an injection event (as is illustrated in FIG. 10), the gas piston initially moves leftwardly independently of collet 196 and independently of ram 226. However, this short initial movement brings the surfaces 100 and 102 into engagement with one another, and contracts the collet member to the second or gripping position seen in FIG. 10. In this second or gripping

position, the jaw surface 98 of the collet 96 engages into one of the grooves 94 of the ram member 226 at grooved end portion 226 c thereof, and drives this ram leftwardly (i.e., forwardly) in unison with the gas piston 268 .

As described above, in the absence of contact with the surface 100 defined on the collet and the surface 102 formed on the piston, the jaw face of the collet stays in the free position (the collet does not engage the ram member. When the surface 100 contacts the surface 102, the jaw face is in the gripping position where the jaw face of the collet 96 engages into one of the grooves of the ram member.

In the present application, the *biased radially-inwardly fingers* as claimed are provided to ensure a first position (i.e., an engagement/gripping position) in which the collet fingers engage the ram so that the collet fingers remain in the first position with the ram before the injection device is fired. Applicant respectfully submits that such features are particularly advantageous to prevent accidental firing without using an additional component such as surfaces 100 and 102.

That is, while Landau requires the surface 100 defined on the collet and the surface 102 formed on the piston to contact each other, thereby allowing the jaw face to grip into a groove of the ram member (in the gripping position), the collet as claimed does not require any component to contact the collet or the fingers of the collet in order for the fingers to engage the ram. Since the fingers are biased radially inwards, they can be dropped into the surface of the ram without using additional components.

For the reasons set forth above, Landau fails to teach or suggest the collet having fingers that are biased radially-inwardly as claimed.

Furthermore, in Landau, there is no feature in the device that is equivalent to a collet having *radially spreadable* fingers as claimed. In particular, Landau fails to teach or suggest a collet having radially spreadable fingers where the fingers spread radially out of engagement with the ram in a release position.

In that regard, the Office Action points to Landau at Col. 10, line 64, and Figures 9 and 10 as disclosing such element. Applicant asserts that Figures 9 and 10 of Landau merely depict a collet having a jaw face. However, nowhere in Landau is it taught or suggested that the collet has *radially spreadable* fingers.

Rather, Landau discloses a collet (96) that can be provided with plural jaws that are *axially spaced* on the collet. Landau discloses that each jaw engages "a respective one of the grooves" on the ram portion. See Col. 10, lines 59-62. As such, a jaw (or jaw space) as disclosed in Landau is an individual jaw provided for engagement with a selected groove from multiple grooves formed on the ram, which is clearly different from "*radially spreadable* fingers" of the collet as claimed. Further, the *axially spaced* jaws cannot spread radially out of engagement with the ram in a release position.

For the reasons set forth above, Schiff and Landau both fail to teach or suggest at least "said retention member comprises a collet having radially spreadable fingers that are biased radially-inwardly, and wherein said collet in use moves between said first position in which said fingers engage with said ram and said second position in which said fingers spread radially out of engagement with said ram," as recited in amended Claim 23.

In the Office Action, it is stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made "to replace Schiff's retention member with Landau's equivalent collet with radially spreadable fingers to achieve the predictable result of engaging the ram." (See Office Action, page 3.) Applicant respectfully disagrees with such assertions.

Applicant respectfully submits that the teachings of Schiff and Landau cannot be combined as alleged by the Office Action. Further, even if, *arguendo*, it is assumed that the collet with a jaw space disclosed in Landau is used in the injection device disclosed in Schiff replacing the retention member as asserted in the Office Action, the combined device will not be operable as intended.

The ram depicted in Figures 3-4 of Schiff is a plunger 46 which does not include *any grooves or an axial array of plural circumferential teeth*. In Landau, in order to be in a gripping position, "the jaw surface 98 of the collet 96 engages into one of the grooves 94 of the ram member." As such, in Landau, the ram having the grooves and teeth is necessary to allow the jaw face of the collet to grip and retain the ram. Accordingly, the combined device cannot be operable since the combined device cannot maintain a gripping position as the ram of the combined device does not include grooves that the jaw face of the collet can engage.

In view of the above, the cited references (e.g., Schiff and Landau), alone or in combination, fail to teach or suggest all elements recited in amended Claim 23. Thus, Claim 23 is allowable. Applicant respectfully requests that the rejection with regard to Claim 23 be withdrawn.

Dependent Claims 26-31

Claims 26-31 depend from Claim 23. Thus, Claims 26-31 include all elements recited in Claim 23. As discussed above, Schiff and Landau fail to teach, suggest, or disclose all elements of Claim 23 and thus also fail to teach all elements of Claims 26-31. Accordingly, Claims 26-31 are allowable in view of their dependency from allowable Claim 23. Applicant respectfully requests that the rejection of Claims 25-31 under 35 U.S.C. § 103 be withdrawn.

Dependent Claims 39, 40, 45 and 46

The Office Action rejected Claims 39, 40, 45, and 46 under 35 U.S.C. § 103(a) as being unpatentable over Schiff in view of Weston (U.S. Patent No. 5,891,086).

Claims 39, 40, 45, and 46 depend from Claim 23. The rejection of Claims 39, 40, 45, and 46 is premised on the assertion that Schiff discloses the features recited in amended Claim 23 and Weston discloses the remaining features of Claims 39-43, 45, and 46. As discussed above, however, Schiff and Landau, alone or in combination, do not disclose or suggest all elements recited in amended Claim 23. As best understood, Weston does not provide any teaching or

suggestion that would remedy this deficiency. Therefore, the rejection is based on a flawed premise and cannot be maintained. Accordingly, applicant respectfully requests withdrawal of the rejection of Claims 30, 40, 45, and 46.

Dependent Claims 41-43

The Office Action rejected Claims 41-43 under 35 U.S.C. § 103(a) as being unpatentable over Schiff and Weston and further in view of Slate (U.S. Patent No. 6,669,664). Claims 41-43 depend from Claim 40, which depends from Claims 39 and 23. The rejection of Claims 41-43 is premised on the assertion that Schiff and Weston disclose the features recited in Claim 40 and Slate discloses the remaining features of Claims 41-43. As discussed above, however, Schiff, Landau, and Weston, alone or in combination, do not disclose or suggest all elements recited in Claim 40. As best understood, Slate does not provide any teaching or suggestion that would remedy this deficiency. Therefore, the rejection is based on a flawed premise and cannot be maintained. Accordingly, applicant respectfully requests withdrawal of the rejection of Claims 41-43.

Thus, withdrawal of the rejection of Claims 41-43 under 35 U.S.C. § 103(a) is respectfully requested.

Allowable Subject Matter

Applicant wishes to thank the Examiner for indicating that Claims 33-38 and 44 would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims. In the Office Action, Claims 33-38 and 44 were objected to as being dependent upon a rejected base claim. Claims 33-38 and 44 directly or indirectly depend from

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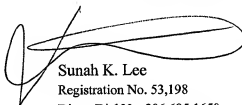
allowable Claim 23. Thus, Claim 33-38 and 44 are further allowable for the at least same reason. Applicant respectfully requests that the objections be removed.

CONCLUSION

In view of the foregoing remarks, applicant respectfully submits that the above-referenced patent application is now in condition for allowance. Reconsideration of the application and allowance of the pending claims are solicited. If the Examiner has any questions, the Examiner is invited to contact the undersigned at the number provided below.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Sunah K. Lee", is written over the printed name.

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